

ABSTRACT

Software defined radios necessitate the routing of analog wireless signals between data links via a software circuit switching router implemented in a processor. Processor utilization by the software router is decreased by disabling the interrupts of all but one analog channel per communication link, this channel being termed the Anchor channel for its link. Data from all channels in the link is transferred during the Anchor link's interrupt. The increase in the Anchor channel's interrupt latency due to transferring data from other channels is more than offset by the overall reduction in the number of processor interrupts generated. As a result, utilization of the processor by the software router is reduced, allowing the processor to manage other time-critical tasks and/or a greater number of tasks in a given time period.